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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: :

Yves NAOUMENKO et al : GROUP ART UNIT: 1774
SERIAL NO.: 09/498,363 :

FILED: FEBRUARY 4, 2000 : EXAMINER: FERGUSON, Lawrence D.

FOR: LAMINATED GLAZING WITH
HIGH CRASH TEST RESISTANCE

APPEAL BRIEF UNDER 37 C.F.R. § 1.192

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

In response to the final Office Action dated March 12, 2002 Applicants herein appeal the final rejection.

I. REAL PARTY IN INTEREST

The real parties in interest are Yves NAOUMENKO ET AL.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

Claims 1-7 and 10-19 are pending and are finally rejected.

IV. STATUS OF AMENDMENTS

All amendments have been entered.

V. SUMMARY OF THE INVENTION

The invention is directed to a laminated glazing having numerous applications, specifically in construction, transportation vehicles or town furniture. According to a feature of the invention, the first transparent sheet of a glazing is offset in relation to the second transparent sheet to form an exposed edge portion of the first sheet. This is shown, for example, in the non-limiting embodiment of the figures, by the offset between the sheets 1 and 2. Providing such an offset of the edges freezes space on the periphery of the lamination, which can be used for the insertion of elements such as connectors for electrical heating, wire networks or antennae. The lamination also presents a peripheral thinning of the offset, which allows it to be installed flush in a body contoured for flush installation of a single sheet of glass of smaller thickness. It is thus possible to establish a uniform depth for the bay of the vehicle frame, regardless of the type of glazing to be provided.

However, the offsetting of the edges of the sheets also creates the problem of inferior crash test resistance, and so the present invention seeks to improve the crash test resistance of a laminated glazing having such an offset edge (see page 2, lines 3-19). To this end, the invention provides an intermediate element, e.g., intermediate element 4, at least partially covering the intercollated adhesive layer (e.g., layer 3) at the exposed edge, the cement element which secures the glazing to the body at least partially adhering to the intermediate element.

The connection between the cement element, the intermediate layer and the exposed edge reinforces the connection of the glazing to the frame (page 3, lines 4-5) and so reduces the problem of reduced crash resistance for the glazing having such an offset. This feature is

recited in Claim 1, which recites in part that the first sheet is offset in relation to the second sheet to form an exposed edge portion of the first sheet, and that the intermediate element is at least partially covering the intercalated adhesive layer binding the second sheet to the first sheet *at the exposed edge.*

IV. ISSUE

The issue to be considered in this appeal is whether Claims 1-7 and 10-19 are obvious over U.S. Patent 5,132,162 (De Paoli) in view of U.S. Patent 5,137,770 (Rothe et al.).

V. ARGUMENTS

Appellants respectfully assert that it would not have been obvious to one skilled in the art to combine the teachings of De Paoli and Rothe et al.

Rothe et al discloses the attachment of a glazing to a frame 7 and, in particular, seeks to eliminate poor adhesion of a cement profile in a flush glazing (column 2, lines 57-63). Rothe et al describes that durable adhesive connections between glass bodies and other materials must withstand great mechanical stresses in the event of impact. The glass bodies can include laminated glass panes (column 1, line 17). A glass body is shown at 1 and has a peripheral edge covering 3 or 4 made of ceramic or a primer. A further layer of primer 5 is placed over the primer layer 4, and cement profiles 2 are placed on the primer 5. Profiles of a second moldable cement 6 are applied between the profiles 2 and on the primer 5 for adhering the glazing 1 to the frame 7.

However, Rothe et al does not disclose first and second transparent sheets, in which "the first sheet is offset in relation to the second sheet to form an exposed edge portion of the first sheet," the intermediate element being at the exposed edge, nor does the Examiner allege

in paragraph 6 of the Office Action that Rothe et al discloses an intermediate element at such an exposed edge. *There is no offset whatsoever in Rothe et al.* As already mentioned, the invention provides increased shock resistance for a glazing having such an exposed edge, and the exposed edge is recited in all the claims. Thus, Rothe et al is not even relevant to the problem which the invention seeks to overcome — reduced shock resistance for a glazing having such an exposed edge. Applicants therefore respectfully submit that the claims clearly define over this reference.

De Paoli merely teaches a heated glazing suitable for an aircraft window including two rigid sheets of glass 1, 2 and a network of resistance wires. The network of resistance wires is carried by a flexible interlayer 3 (See De Paoli, column 2 lines 25-32), which, as shown in Figures 1, 3 and 4, is disposed between the sheets of glass 1, 2.

There is no teaching or suggestion in De Paoli that the flexible interlayer 3 is an intercalated adhesive layer binding the two rigid sheets of glass 1, 2. Indeed a reasonable interpretation of the De Paoli specification reveals that the flexible interlayer 3 does not act as an adhesive nor does it bind the two rigid sheets of glass 1, 2. Rather, the interlayer 3 has on its face a sliding zone which permits sliding of features contained within the interlayer 3 relative to a rigid sheet. Therefore, the interlayer 3 is not an adhesive which binds the two rigid sheets of glass.

Even if the interlayer 3 did correspond to the claimed intercalated adhesive layer, Appellants assert that De Paoli does not anticipate the claimed relative arrangement of the sheets and the intercalated adhesive layer. Although such that the intercaleated adhesive layer extends over a portion of the first sheet the De Paoli suggests that the De Paoli heated glazing can exhibit a structure with an offset edge (See De Paoli, column 3 lines 52-55) there is no teaching or suggestion in De Paoli that the flexible interlayer 3 would extend over the offset

edge. Therefore, Claim 1 appears to define over the reference to De Paoli. Thus, since De Paoli does not cure the defects of Rothe et al, as discussed above, Claim 1 defines over the combination of the references. Thus, the rejection is believed to be overcome.

Appellants therefore respectfully submit that all of the claims are patentable and so request that the final rejection be reversed.

Respectfully submitted,
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APPENDIX

1. Laminated glazing to be fitted upon a body, comprising:

a transparent first sheet;

a transparent second sheet, wherein the first sheet is offset in relation to the second sheet to form an exposed edge portion of the first sheet;

an intercalated adhesive layer binding said second sheet to said first sheet, wherein the intercalated adhesive layer extends over a portion of at least the exposed edge portion of the first sheet;

an intermediate element at least partially covering the intercalated adhesive layer at said exposed edge; and

a cement element adhered at least partly to said intermediate element for securing the glazing to the body.

2. Laminated glazing according to claim 1, wherein the intercalated adhesive layer covering said exposed edge is totally covered by the intermediate element.

3. Laminated glazing according to claim 1, wherein the intermediate element does not penetrate under the second sheet.

4. Laminated glazing according to claim 1, wherein the intermediate element penetrates under the second sheet.

5. Laminated glazing according to claim 1, wherein the intermediate element is formed of a material having a tensile strength in conformity with the standard ISO 527.

6. Laminated glazing according to claim 1, wherein the intermediate element is formed of a material having a tensile strength at least equal to 10,000 MPa.

7. Laminated glazing according to claim 1, wherein the intermediate element is

formed of a material having a tensile strength at least equal to 15,000 MPa.

10. Laminated glazing according to claim 1, wherein the porosity of the material constituting the intermediate element corresponds to a water recovery at least equal to 30 g/day/m2 for a 3 mm thick intermediate element.

11. Laminated glazing according to claim 1, wherein the porosity of the material constituting the intermediate element corresponds to a water recovery at least equal to 18 g/day/m2 for a 3 mm thick intermediate element.

12. Laminated glazing according to claim 1, wherein the cement element is adhered to both the intermediate element and the first sheet.

13. Laminated glazing according to claim 1, wherein the cement element is adhered to only the intermediate element.

14. Laminated glazing according to claim 1, wherein the intermediate element is formed from at least one material from the group consisting of aluminum and stainless steel.

15. Laminated glazing according to claim 1, wherein the intermediate element is formed from at least one material from the group consisting of an epoxy and a phenolic, unsaturated polyester resin containing reinforcement fillers.

16. Laminated glazing according to claim 15, wherein the reinforcement fillers are comprised of at least one material from the group consisting of glass fibers and organic fibers.

17. Laminated glazing according to claim 15, wherein the reinforcement fillers are comprised of at least one material from the group consisting of fibers of carbon and aromatic polyamide.

18. Laminated glazing according to claim 10, wherein the intermediate element is formed of an electrical insulator.

19. Laminated glazing according to claim 1, wherein the body is an automobile body.